

Level of maternal triglycerides is predictor of fetal macrosomia in nonobese pregnant women with gestational diabetes mellitus.

[Hashemipour S¹](#), [Haji Seidjavadi E²](#), [Maleki F¹](#), [Esmailzadehha N³](#), [Movahed F¹](#), [Yazdi Z⁴](#).

¹Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

²Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran. Electronic address: dr_seidjavadi@yahoo.com.

³School of Health, Iran University of Medical Sciences, Tehran, Iran.

⁴Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

Abstract

BACKGROUND:

The role of maternal serum triglycerides (TGs) in the development of fetal macrosomia in different subgroups of body mass index (BMI) has received little attention. The aim of this study was to determine the association between the level of maternal TGs and fetal macrosomia in Iranian pregnant women of different BMI subgroups with gestational diabetes mellitus (GDM).

METHODS:

This cohort study was conducted on 305 pregnant women with GDM referred for glucose control to Kowsar Hospital in Qazvin, Iran. Level of TGs was measured on the 24th-28th weeks of pregnancy. The ROC curve of the level of TGs was depicted in BMI subgroups to predict fetal macrosomia. Logistic regression analysis was used to determine the risk of macrosomia per 1-SD increase in the level of TGs.

RESULTS:

The prevalence of hypertriglyceridemia did not significantly differ across BMI subgroups. Macrosomia was more prevalent in obese women (32.2%) than overweight (19.1%) and normal weight (11.1%) women ($P < 0.05$). A 1-SD increase in the level of TG was associated with 4.2 and 1.9 times increased risk of macrosomia in normal weight ($P < 0.01$) and overweight ($P < 0.01$) women, respectively. Serum level of TGs was not associated with macrosomia in any adjustment models in obese women. The area under the curve of the level of TGs for macrosomia was 0.828 (95% CI: 0.712-0.911, $P < 0.001$) and 0.711 (95% CI: 0.639-0.775, $P < 0.001$) in normal weight and overweight women, respectively.

CONCLUSION:

Hypertriglyceridemia was a predictor of macrosomia in non-obese women. More studies on different ethnicities and lifestyles are necessary to determine the association between the level of maternal TG and fetal macrosomia in BMI subgroups.

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KEYWORDS:

birth weight; fetal macrosomia; gestational diabetes; pregnancy; triglycerides

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